



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Deepwater Horizon Gulf Restoration Office  
341 Greeno Road North, Suite A  
Fairhope, Alabama 36532

In Reply Refer To:  
FWS/R4/DH NRDAR

Memorandum

May 18, 2023

To: Memorandum to File

From: Michael Barron, Deepwater Horizon Gulf Restoration Office

Subject: Determinations for Louisiana Trustee Implementation Group's project: Lower Trophic Level Monitoring for Barataria Basin

Under the Endangered Species Act (ESA) Section 7(a)(2), each Federal agency shall ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species, or destroy/adversely modify designated critical habitat. If a Federal agency determines that a Federal action will have no effect on ESA-listed species or designated critical habitat, then the Federal agency is not required to consult with the U.S. Fish and Wildlife Service (Service) for purposes of ESA. This memo does not include any information or effects determinations for protected species under the jurisdiction of the National Marine Fisheries Service.

We have reviewed the project materials provided (see attached Biological Evaluation Form) for the proposed project entitled: "Lower Trophic Level Monitoring for Barataria Basin". Based on our evaluation, we have determined that the project is not likely to jeopardize the continued existence of Alligator Snapping Turtle (*Macrochelys temminckii*), which is a proposed for listing. Therefore, no concurrence from the Louisiana Field Office is required. Additionally, the Monarch Butterfly (*Danaus plexippus*) as a candidate species for listing, does not require consultation. Should the project be modified in a way that could adversely impact species or habitats, these determinations will be reevaluated as appropriate.

We have also reviewed the proposed project for impacts to bald eagles (*Haliaeetus leucocephalus*) in accordance with the Bald and Golden Eagle Protection Act of 1940 as amended (16 U.S.C. 668-668c) and impacts to migratory birds in accordance with the Migratory Bird Treaty Act of 1918 as amended (16 U.S.C. 703-712 and determined that take would be avoided, and best management practices will be followed.

We have also reviewed the proposed project for consistency with the Coastal Barrier Resources Act of 1982 (16 U.S.C. 3501-3510) and determined that the project will not be implemented in any System Units.

If you have questions or concerns regarding this action, please contact Michael Barron, Fish and Wildlife Biologist, at 251-421-7030 or [michael\\_barron@fws.gov](mailto:michael_barron@fws.gov).

Attachment (1)

**Attachment 1**  
**Biological Evaluation Form**

***Deepwater Horizon Oil Spill Restoration***

U.S. Fish and Wildlife Service & National Marine Fisheries Service

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This form will be filled out by the Implementing Trustee and used by the regulatory agencies. The form will provide information to initiate informal Section 7 consultations under the Endangered Species Act (ESA) and may be used to document a No Effect determination or to initiate pre-consultation technical assistance.

It is recommended that this form also be completed to inform and evaluate additional needs for compliance with the following authorities: Migratory Bird Treaty Act (MBTA), Marine Mammal Protection Act (MMPA), Coastal Barrier Resources Act (CBRA), Bald and Golden Eagle Protection Act (BGEPA) and Section 106 of the National Historic Preservation Act (NHPA).

Further information may be required beyond what is captured on this form. Note: if you need additional space for writing, please attach pages as needed.

For assistance, please contact the compliance liaisons  
USFWS: Michael Barron at michael\_barron@fws.gov  
NMFS: Christy Fellas at christina.fellas@noaa.gov

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A. Project Identification

Federal Action Agency(one or more):USFWS  NOAA  EPA  USDA

Implementing Trustee(s): NOAA

Contact Name: Ian Zink Phone: 843-259-3918 Email: ian.zink@noaa.gov

Project Name: Lower Trophic Level Monitoring for Barataria Basin

DIVER ID# 269 TIG: Louisiana TIG Restoration Plan # N/A

B. Project Phase

Please choose the box which best describes the project status, as proposed in this BE form,

check ALL that apply:

Construction/Implementation  Planning/Conceptual  Engineering & Design

If “Engineering & Design” was selected, please describe the level of design that has been completed and is available for review:

N/A

### C. Project Location

#### I. State and County/Parish of action area

Louisiana: Lafourche, Jefferson, and Plaquemines Parishes

#### II. Latitude/Longitude for action area (Decimal degrees and datum [e.g., 27.71622°N, 80.25174°W NAD83] [online conversion: <https://www.fcc.gov/encyclopedia/degrees-minutes-seconds-tofrom-decimal-degrees>]

Multiple field sampling sites within Barataria Basin will be sampled, as illustrated in the map below. One site, for reference, is near 29.40641,-89.6597 .

#### III. Maps and Drawings

**Please insert any maps, aerial photographs, or design drawings here or attach to the end of this BE form.**

Examples of such supporting documentation include, but are not limited to:

- Plan view of design drawings

- Aerial images of project action area and surrounding area, showing state or regional scale

- Map of project area with elements proposed (polygons showing proposed construction elements)

- Map of action area with critical habitat units or sensitive habitats overlaid

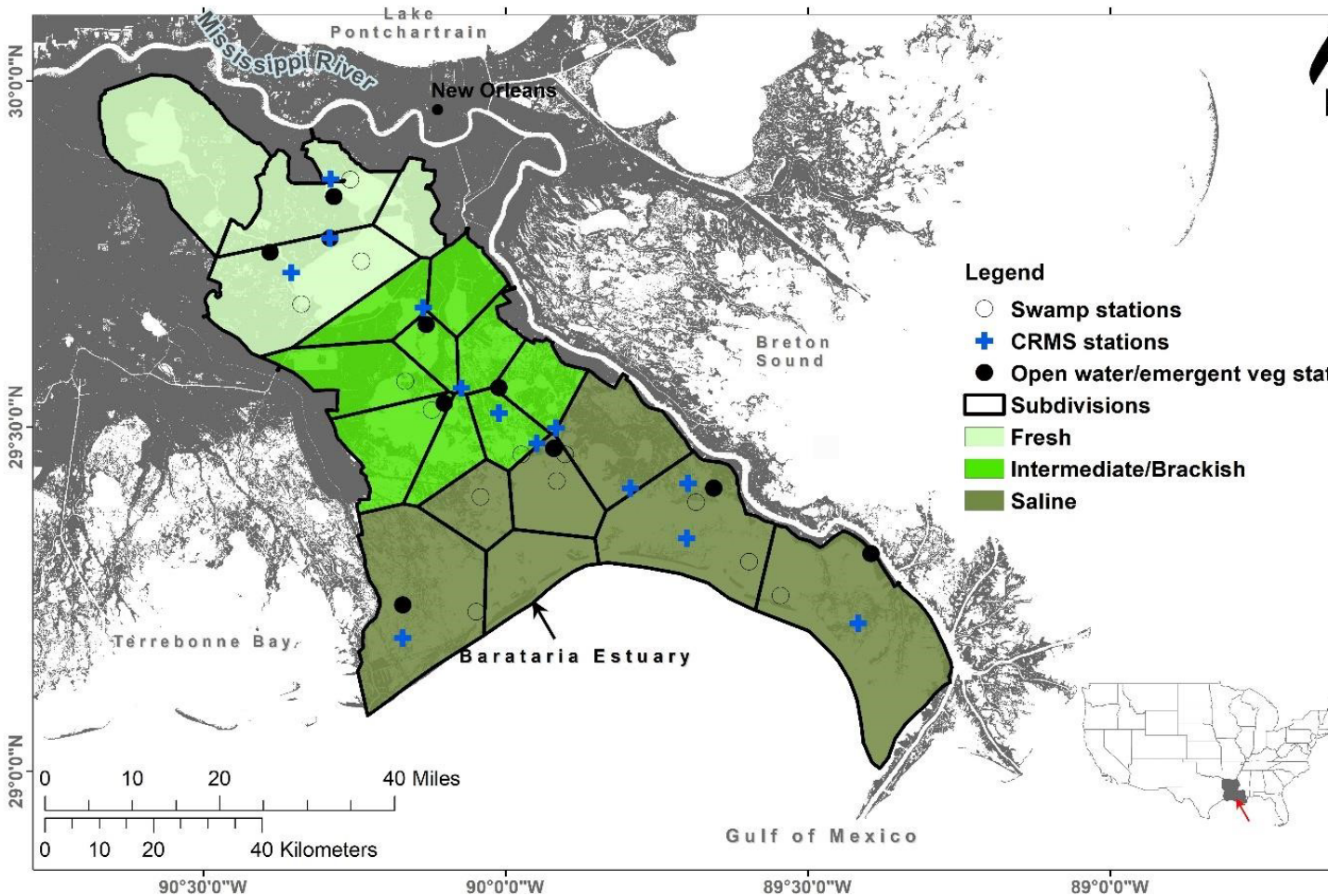


Figure 1. The ten Lower Trophic Level (LTL) sampling stations in Barataria Basin are indicated by solid black dots. Multiple types of sampling will occur adjacent to these stations. All LTL monitoring stations align with a subset of the existing long-term monitoring stations for FIMP 50 ft seine and electrofishing sampling locations. The existing long-term CRMS and SWAMP sites closest to each station are also shown for reference only. General salinity zones are based on Sasser et al., (2014) aligned with modified CASM polygons (see Kiskaddon et al., 2021).

#### D. Existing Compliance Documentation

NEPA Documents

Are there any **existing** draft or final NEPA analyses (not PDARP/PEIS) that cover all or part of this project?

YES

NO

Examples:

-TIG Restoration Plan/EA or EIS (draft or final)

-USACE programmatic NEPA analysis

- USACE Clean Water Act individual permit for the project
- NEPA analysis provided by a federal agency that gave approval, funding or authorization

Permits

Have any federal permits been obtained for this project, if so which ones and what is the permit number(s)?

YES  NO  Permit Number and Type: Click or tap here to enter text

Have any federal permits been applied for but not yet obtained, if so which ones and what is the permit number(s)?

YES  NO  Permit Number and Type: Click or tap here to enter text.

If yes to any question above, please provide details in the text box (i.e. link to the NEPA document, or name of the document, year, lead federal agency, POC, copy of the permit or permit application, etc.). This is needed to check for consistency of the project scope across different sources and to facilitate the NEPA analysis. If you do not have a link, email the documents to the TIG representative for the Trustee designated as lead federal agency for the restoration plan.

NEPA analysis is incorporated into the “Assess Lower Trophic Levels of the Barataria Estuary MAM Implementation Plan”

Any documentation or information provided will be very helpful in moving your project forward.

Name of Person Completing this Form: Courtney Schupp

Name of Project Lead: Courtney Schupp

Date Form Completed: 12/14/2022

Date Form Updated: Click here to enter text.

## E. Description of Action Area

*Provide a description of the existing environment (e.g., topography, vegetation type, soil type, substrate type, water quality, water depth, tidal/riverine/estuarine, hydrology and drainage patterns, current flow and direction), and land uses (e.g., public, residential, commercial, industrial, agricultural). Describe all areas that may be directly or indirectly affected by the action. If critical habitat (CH) is not designated in the area, then describe any suitable habitat in the area.*

#### a. Waterbody & Wetlands

*If applicable. Name the body of water, including wetlands (freshwater or estuarine), on which the project is located. If applicable, please describe water quality, depth, hydrology, current flow, and direction of flow.*

Active field sampling will occur in Barataria Basin, Louisiana, in freshwater, intermediate/brackish, and saline areas. Sampling will occur on and immediately adjacent to estuarine wetlands, on emergent vegetation and in open water areas ( $\leq$  ~1m depth) within Barataria Basin. Local currents/hydrology is anticipated to be dominated by tidal flows, which would result in bi-directional flows on a daily cycle. Over longer time periods, the flow would be predominately towards coastal areas.

*Does the project area include a river or estuary?*

YES  NO

*If yes, please approximate the navigable distance from the project location to the marine environment.*

There are multiple sampling stations. Maximum distance from the marine environment (i.e., linear distance from the northernmost freshwater sampling station to a point just outside of Louisiana coastal barrier islands) would be approximately 44 miles (70 km).

#### b. Existing Structures

*If applicable. Describe the current and historical structures found in the action area (e.g., buildings, parking lots, docks, seawalls, groynes, jetties, marina). If known, please provide the years of construction.*

Field sampling would actively avoid current or historical structures in its action area/at selected sampling locations because the field sampling is intended to target minimally impacted areas to establish baseline understanding of lower trophic level communities. There is no active construction associated with this project. However, previously restored marshes will be sampled.

#### c. Seagrasses & Other Marine Vegetation

*If applicable. Describe seagrasses found in action area. If a benthic survey was done, provide the date it was completed and a copy of the report. Estimate the species area of coverage and density. Attach a separate map showing the location of the seagrasses in the action area.*

Seagrasses and other submerged aquatic vegetation (SAV) are sparse throughout Barataria Basin, but may occur in some of the specific sampling locations. Field sampling would interact directly with *Spartina* spp. while sampling marsh platforms. This would include removal of small areas of marsh vegetation (see description below) when collecting sediment cores.

#### d. Mangroves

*If applicable. Describe the mangroves found in action area. Indicate the species found (red, black, white), the species area of coverage in square footage and linear footage along project shoreline.*

*Attach a separate map showing the location of the mangroves in the action area.*

The scope of this project does not specifically include sampling of mangrove vegetation and specific sampling locations have yet to be determined. Black mangroves are present in back-barrier island marsh communities and we may sample in these areas where mangroves are present; however, this would not require removal or other impacts with the mangroves themselves.

#### e. Corals

*If applicable. Describe the corals found in action area. If a benthic survey was done, provide the date it was completed and a copy of the report. Estimate the species area of coverage and density. Attach a separate map showing the location of the corals in the action area. Click here to enter text.*

N/A

#### f. Uplands

*If applicable. Describe the current terrestrial habitat in which the project is located (e.g. pasture, forest, meadows, beach and dune habitats, etc.).*

While uplands are located within the broad action area as depicted in the map above, uplands will not be affected as field sampling associated with this project will be conducted in intertidal coastal/estuarine habitats.

#### g. Soils and Sediments

*If applicable. Indicate topography, soil type, substrate type.*

Soils are interdistributary deposits representative of marsh habitats. These are predominately composed of marsh peat.

#### h. Land Use

*If applicable. Indicate existing or previous land use activities (agriculture, dredge disposal, etc).*

Sampling locations may include previously restored marsh habitats, including those built with dredged sediments.

#### i. Marine Mammals

*Please select the following marine mammals that could be present within the project area:*



Dolphins YES  NO   
Whales YES  NO   
Manatees YES  NO

*If applicable. Indicate and describe the species found in the action area. Use NMFS' Stock Assessment Reports (SARs) for more information, see <http://www.nmfs.noaa.gov/pr/sars/region.htm>*

- Common bottlenose dolphin (*Tursiops truncatus*); Terrebonne, Timbalier Bay Estuarine System
- Common bottlenose dolphin; Barataria Bay Estuarine System
- West Indian Manatee (*Trichechus matus*)

## F. Project Description

*I. Describe the Proposed Action/Project Objectives: What are you trying to accomplish and how with this project? Describe in detail the construction equipment and methods\*\* needed; long term vs. short term impacts; duration of short term impacts; dust, erosion, and sedimentation controls; restoration areas; if the project is growth-inducing or facilitates growth; whether the project is part of a larger project or plan; and what permits will need to be obtained.*

*Attach a separate map showing project footprint, avoidance areas, construction accesses, staging/laydown areas.*

*\*\*If construction involves overwater structures, pilings and sheetpiles, boat slips, boat ramps, shoreline armoring, dredging, blasting, artificial reefs or fishery activities, list the method here, but complete the next section(s) in detail.*

This project has three primary tasks:

Task 1: Prepare for field sampling in the Barataria Estuary (Year 1).

Task 2: Conduct three years of field sampling in the Barataria Estuary (Years 2-5).

Task 3: Synthesize LTL data and produce summary report characterizing current conditions of the Barataria Estuary (Year 5).

Task 4: Develop a long-term LTL monitoring plan for the Barataria Estuary (Year 6).

The objectives of this project as they relate to Monitoring and Adaptive Management (MAM) needs identified in the LA TIG MAM Strategy are outlined below:

- Characterize the density, relative abundance, and community composition of key LTL groups with consideration of natural spatiotemporal variability prior to implementation of the majority of Deepwater Horizon (DWH) restoration actions in the Barataria Estuary. These data will be used to develop draft objectives related to standing stock baselines for the Barataria Estuary and will be used to inform future

development of SMART objectives related to identifying appropriate time scales for evaluating restoration trajectories (Cross-Restoration Type #1.a.), evaluating ecosystem function (Cross-Restoration #2.b.), quantifying trophic linkages (Cross-Restoration 2.c.), and assessing long-term restoration impacts across the entire Natural Resource Damage Assessment (NRDA) restoration portfolio (Cross-Restoration #4.a.).

- Quantify habitat characteristics (e.g., salinity, sediment characteristics, water quality, and other abiotic conditions and drivers) appropriate for predicting key LTLs' standing stock within the Barataria Estuary.
- Provide baseline information to inform future development of a Louisiana Trustee Implementation Group (LA TIG) MAM Strategy SMART objective associated with wetland net ecosystem carbon balance.

This project does not include any construction.

This Biological Evaluation (BE) Form focuses on Task 2 because the other project Tasks are desktop-only activities.

Task 2, the field sampling component of this project, will be done during a four-year period. Details of field sampling methods, frequency, and number are described below.

Sampling in emergent vegetation habitats will occur in areas of flooded vegetation. Open water sampling will occur in water depths of approximately 1 m.

Microphytobenthos: Seasonal (4 times per year)

- One surface sediment sample will be collected at each of the five emergent vegetation (EV) sites and each of the five open water (OW) sites per LTL monitoring station on a seasonal basis (n=100 samples per season, 400 samples per year). Due to the cost associated with microphytobenthos, sampling this LTL component will be adaptively managed throughout the project, with a possible reduction in the number of annual samples in years 2 and 3.
- 5 emergent vegetation sites: An acrylic hand push corer (7.6 cm diameter, 10 cm height) or a 50 cm<sup>3</sup> syringe with the tip removed can be used to collect the samples.
- 5 open water sites: The same acrylic cores (7.6 cm diameter, 10 cm height) can be used with a piston corer to collect subtidal sediment samples.

Phytoplankton: Bi-weekly

- At each of the ten LTL monitoring stations, sampling will occur at one fixed open-water site (n=10 samples biweekly, 260 samples per year).
- One 1-L Nalgene bottle of water will be collected from 0.5 m depth at each station to examine biomass.

- Additionally, one 2-L Nalgene bottle of water will be collected from 0.5 m depth at each station to measure absorption coefficients.

#### Zooplankton: Bi-weekly

- At each of the ten LTL monitoring stations, sampling will occur at one fixed open-water site (n=10 samples biweekly, 260 samples per year).
- For each of the ten LTL monitoring stations, a diaphragm pump (10 L/min flow rate or higher) will be used to sample water at a depth of 0.5m for both micro- and mesozooplankton. If water depths exceed 5 m at any station, an additional sample will be collected mid-water column to account for depth stratification of both microzooplankton and mesozooplankton.
- Microzooplankton: one 250mL whole-water sample will be collected from the pump intake.
- Mesozooplankton: 1 m<sup>3</sup> will be collected by pumping for 10 minutes and passed through a 72-µm mesh collection net.

#### Macroinfauna: Seasonal (4 times per year)

- At each of the ten LTL monitoring stations, sediment core samples (5 cm diameter, 5 cm sediment depth) will be collected in triplicate at all OW and EV sites on a seasonal basis. Hand-held push cores will be used at five EV sites per station, and a long-handled push core will be used at five open water sites per station (n = 3600 samples per year).

#### Stable Isotopes: Seasonal (4 times per year)

- Phytoplankton and Mesozooplankton: At least 1 L of whole water will be collected from the water surface (0.5 m depth) at three open water sites per each of the ten LTL monitoring stations (n=120 samples per year).
- Microphytobenthos: One surface sediment sample will be collected from three open water sites and three emergent vegetation sites at each of the ten LTL stations (n = 260 samples per year). Sampling will be conducted using acrylic cores (7.6 cm diameter, 10 cm height) operated with a piston corer.
- Macroinfauna: Additional “ad hoc” sediment suction sampling will be conducted at three open water sites at each of the ten LTL monitoring stations to enumerate sufficient macroinfauna tissue (2.5 – 3.0 g dry mass) for stable isotope analysis. Due to high uncertainty and spatial variability in macroinfauna abundance, strict sampling effort is unknown.
- Vegetation: One vegetation sample of each dominant species of C3 plants, C4 plants, and SAV (one-half quart of leaves/stems of each dominant species) will be collected from three emergent vegetation sites at each of the ten LTL monitoring stations (n = 360 samples per year for each of the 3 vegetation types). Additionally, one-half of a 15 ml falcon tube will be collected for epiphytes from three emergent vegetation sites at each of the ten LTL monitoring stations (n = 120 samples per year).

- Sediment: At each of the ten LTL monitoring stations, sediment core samples (5 cm diameter, 5 cm sediment depth) will be collected. Hand-held push cores will be used at three EV sites per station, and a long-handled push core will be used at three open water sites per station (n = 260 samples per year).

#### Water Quality: Bi-weekly

- At each of the ten LTL monitoring stations, sampling will occur at one fixed open-water site (n= 260 samples per year).
- Physical parameters will be measured in-situ with no samples removed from the site. A Secchi disk depth measurement should be taken by lowering the Secchi disk into the water. A photosynthetic available radiation (PAR) sensor will be lowered carefully to the bottom. A multiparameter sonde (e.g., YSI EXO) that measures depth, temperature, salinity, pH, turbidity, and dissolved oxygen will be lowered carefully to the bottom.
- Nutrients and suspended sediments will be sampled at the water surface (0.5 m depth) using a bucket to fill up a 2-L Nalgene bottle.

#### Sediment Characteristics: Seasonally

- One sediment sample will be collected from each of 10 sites at each of the 10 LTL monitoring stations (n=100 per season, n=400 samples per year). Samples will be collected using the same coring methods described for sampling macroinfauna.

NOAA and other researchers have experience utilizing this sampling gear in shallow estuarine environments; thus, the use of these gears in this project does not constitute development of new techniques and is typical of previous work. These sampling efforts are anticipated to produce minor, hyper-localized impacts on estuarine habitats during sampling gear deployment and collection of plants, sediments, and lower trophic level organisms for lab analysis. Other marsh vegetation outside of the sampling gear may be temporarily impacted during sample recovery. These actions will likely produce short-term impacts (1 day for sampling,  $\leq$  ~6 months for vegetation regeneration) but no long-term impacts are anticipated.

This project does not include construction activities, so no over- or in-water features will be constructed and no dust, erosion or sediment controls are expected. These sampling activities will be conducted from small vessels (Class 1 or smaller, <26 ft) in order to safely access shallow marsh areas without damaging benthic resources while in transit between specific sampling sites.

While interactions with other protected resources (e.g., dolphins, manatees, alligator snapping turtles [*Macrochelys temminckii*]) may occur, most likely during transit between sampling locations, field crews will utilize well established NOAA /USFWS Best Practices to avoid boat collisions (e.g., designate a non-pilot crew member to assist with

observing/detecting protected resources in order to avoid their interactions while in transit to sampling locations).

II. *Construction Schedule (What is the anticipated schedule for major phases of work? Include duration of in-water work.)* Click here to enter text.

III. *Specific In-Water and/or Terrestrial Construction Methods*

*Please check yes or no for the following questions related to in-water work and overwater structures*

<i>Does this project include in-water work?</i>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<i>Does this project include terrestrial construction?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Does this project include construction of an overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Will fishing be allowed from this overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Will wildlife observation be allowed from this overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Will boat docking be allowed from this overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

*If this is a fishing pier, please provide the following information: public or private access to pier, estimated number of people fishing per day, plan to address hook and line captures of protected species, specific operating hours/open 24 hours, artificial lighting of pier (if any), number of fish cleaning stations, and number of pier attendants (if any).*

N/A

*Construction: Provide a detailed account of construction methods. It is important to include step-by-step descriptions of how demolition or removal of structures is conducted and if any debris will be moved and how. Describe how construction will be implemented, what type and size of materials will be used and if machines will be used, manual labor, or both. Indicate if work will be done from upland, barge, or both.)*

- iii. *Use of "Dock Construction Guidelines"?* <https://media.fisheries.noaa.gov/dam-migration/dockkey2002.pdf>
- iv. *Type of decking: Grated – 43% open space; Wooden planks or composite planks – proposed spacing?*
- v. *Height above Mean High Water (MHW) elevation?*
- vi. *Directional orientation of main axis of dock?*
- vii. *Overwater area (sq ft)?*

Click here to enter text.

b. *Pilings & Sheetpiles: If this project includes installation of pilings or sheets, please provide answers to questions 1-11 listed below*

<i>1. Method of pile installation</i>	
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2. Material type of piles used	
3. Size (width) of piles/sheets	
4. Total number of piles/sheets	
5. Number of strikes for each single pile	
6. Number of strikes per hour (for a single pile)	
7. Expected number of piles to be driven each day	
8. Expected amount of time needed to drive each pile (minutes of driving activities)	
9. Expected number of sequential days spent pile driving	
10. Whether pile driving occurring in-water or on land	
11. Depth of water where piles will be driven	

c. *Marinas and Boat Slips (Describe the number and size of slips and if the number of new slips changes from what is currently available at the project. Indicate how many are wet slips and how many are dry slips. Estimate the shadow effect of the boats - the area (sqft) beneath the boats that will be shaded.)*

N/A

d. *Boat Ramp (Describe the number and size of boat ramps, the number of vessels that can be moored at the site (e.g., staging area) and if this is a public or private ramp. Indicate the boat trailer parking lot capacity, and if this number changes from what is currently available at the project.)*

N/A

e. *Shoreline Armoring (This includes all manner of shoreline armoring (e.g., riprap, seawalls, jetties, groins, breakwaters, etc.). Provide specific information on material and construction methodology used to install the shoreline armoring materials. Include linear footage and square footage. Attach a separate map showing the location of the shoreline armoring in the action area.*

N/A

f. *Dredging or digging (Provide details about dredge type (hopper, cutterhead, clamshell, etc.), maximum depth of dredging, area (ft<sup>2</sup>) to be dredged, volume of material (yd<sup>3</sup>) to be produced, grain size of material, sediment testing for contamination, spoil disposition plans, and hydrodynamic description (average current speed/direction)). If digging in the terrestrial environment, please describe fully with details about possible water jetting, vibration methods to install pilings for dune walk-over structure, or other methods. If using devices/methods/turtle relocation dredging to relocate sea turtles, then describe the methods here.*

Sediments will be collected using hand corers, piston corers, and suction pumps. Three years of sampling will result in these samples:

- Microphytobenthos: 1200 cores (7.6 cm diameter, 10 cm height) using hand push corer and piston corer
- Macroinfauna: 10,800 cores (5 cm diameter, 5 cm sediment depth) using push corer

Stable isotopes will be sampled seasonally for three years, resulting in these samples:

- Microphytobenthos: 720 cores (7.6 cm diameter, 10 cm height) using a piston corer
- Macroinfauna: Up to 720 samples using sediment suction sampling
- Vegetation: 360 samples for each dominant species (1/2 quart bag of leaves/stems per species of each C3 plant, C4 plant, and SAV; one-half of a 15 ml falcon tube for epiphytes)
- Surface sediment: 720 cores (5 cm diameter, 5 cm sediment depth) using a long-handled piston core

g. *Blasting (Projects that use blasting might not qualify as “minor projects,” and a Biological Assessment (BA) may need to be prepared for the project. Arrange a technical consultation meeting with NMFS Protected Resources Division to determine if a BA is necessary. Please include explosive weights and blasting plan.)*

N/A

h. *Artificial Reefs (Provide a detailed account of the artificial reef site selection and reef establishment decisions [i.e., management and siting considerations, stakeholder considerations, environmental considerations, long term maintenance plan (periodic clean-up of lost fishing gear/debris)], deployment schedule, materials used, deployment methods, as well as final depth profile and overhead clearance for vessel traffic. For additional information and detailed guidance on artificial reefs, please refer to the artificial reef program websites for the particular state the project will occur in.*

N/A

i. *Fishery Activities (Describe any use of gear that could entangle or capture protected species. This includes activities that may enhance fishing opportunities (e.g. fishing piers) or be fishery/gear research related (e.g. involve trawl gear, gillnets, hook and line gear, crab pots etc)).*

N/A

## G. NOAA Essential Fish Habitat (EFH)

*If applicable, describe any designated Essential Fish Habitat within the project area in the text box and answer the questions below about habitat effects, conversions or benefits. If there is no EFH in your project area, enter N/A in the box below and move to section F.*

*Depending on the effects of your project, EFH consultation with NMFS may be required:*

<https://www.fisheries.noaa.gov/southeast/consultations/essential-fish-habitat-consultations-southeast>

This project proposes field sampling that will take place in estuarine, inshore (i.e., interior of barrier islands) open waters (which may include mud/soft sediment, oyster, and/or submerged aquatic vegetation) adjacent to marsh platforms and on marsh platforms located in Eco-Region 4 (specifically, within Barataria Basin of Louisiana). Estuarine Emergent Marsh EFH has been designated for post-larval, early juvenile, and adult red drum; adult gray snapper; and early juvenile brown shrimp and white shrimp. Estuarine mangrove has been designated as EFH for early juvenile gray triggerfish and for early juvenile and late juvenile lane snapper. Estuarine submerged aquatic vegetation has been designated as EFH for larval, post-larval, late juvenile, and adult red drum; post-larval, early juvenile, and late juvenile lane snapper; and early juvenile brown shrimp. Estuarine sand and shell bottom has been designated as EFH for postlarval and adult red drum; adult gray snapper; early juvenile and late juvenile lane snapper; and early juvenile brown shrimp. Estuarine oyster reef has been designated as EFH for early juvenile brown shrimp. Estuarine mud/soft bottom has been designated as EFH for larval, post-larval,

early juvenile, and adult red drum; adult gray snapper; early juvenile and late juvenile lane snapper; and early juvenile brown shrimp and white shrimp.

In this table, please use checkboxes to indicate which EFH eco-region(s) and habitat zone(s) in which the project is located. For more information about EFH Eco Regions see the references here:

<https://noaasdd.sharepoint.com/:f:/s/tcover/Euupi2PMtXdEqQtJSdKyq-wBdyb42ubMUUbMy7QsijqK7A?e=oYqSsb>

<https://portal.gulfcouncil.org/EFHreview.html>

<u>Gulf of Mexico EFH Eco-Region</u>	<u>Estuarine</u>	<u>Nearshore</u>	<u>Offshore</u>
<b>Eco-Region 1: South Florida</b> <i>(Florida Keys north to Tarpon Springs, Florida)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Eco-Region 2: North Florida</b> <i>(Tarpon Springs, Florida, north and west to Pensacola Bay, Florida)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Eco-Region 3: East Louisiana, Mississippi, and Alabama</b> <i>(Pensacola Bay, Florida, west to the Mississippi River Delta)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Eco-Region 4: East Texas and West Louisiana</b> <i>(Mississippi River Delta west and south to Freeport, Texas)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Eco-Region 5: West Texas</b> <i>(Freeport, Texas south to the U.S./Mexico border)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Effects to EFH

In this section, please indicate if your project has effects on EFH, either beneficial or adverse. For example, whether the project creates, improves, removes or converts habitat. Please describe the types of habitats that will be affected by the project, including number of acres.

Will this project affect EFH?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
-------------------------------	---

If no, please proceed to section X. (For example, your project is wholly upland or includes only desktop analysis tasks)

If yes, please proceed to additional boxes below.

Click here to enter text.

Will this project have beneficial effects to EFH?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
---	---

If yes, please describe how your project will have beneficial effects the text box below:	
---	--

While short term negative impacts of the sampling activities may be realized, the anticipated ultimate effect to EFH will be beneficial. This project aims to inform adaptive management and assessment of coastal habitat restoration actions conducted under the DWH NRDA program.



Will this project have adverse effects on EFH?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
If yes, please describe what type of adverse effects your project will cause to EFH in the text box below:	

Sample collection will remove small amounts of sediment, lower trophic level organisms, and emergent vegetation. Sampling activities will likely produce short-term impacts (1 day for sampling, ≤ 6 months for vegetation regeneration) but no long-term impacts are anticipated.

## H. NOAA ESA Species and Critical Habitat and Effects Determination Requested

If your project occurs in a location that does not contain any listed NOAA species or designated Critical Habitats, please check the box below. If this box is checked, you may skip Section H. and proceed to Section I.

This project occurs in a location that does not contain any listed NOAA species or designated Critical Habitats.

ESA effects have been accounted for under an existing consultation.

1. List all species, critical habitat, proposed species and proposed critical habitat that may be found in the action area. Species that do not currently occur in the action area (but are listed on county species lists) do not need to be listed in drop downs. For species not included in the drop down menu please add manually to the table.

2. Attach a separate map identifying species/critical habitat locations within the action area. For information on species and critical habitat under NMFS jurisdiction, visit: [http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/threatened\\_endangered/Documents/gulf\\_of\\_mexico.pdf](http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/Documents/gulf_of_mexico.pdf).

If Gulf sturgeon in marine waters may be affected, include them in the table here. If Gulf Sturgeon in riverine/freshwater may be affected include them in the USFWS table below in Section H. If sea turtles in water may be affected include them in the table here. If sea turtles on land may be affected include them in the USFWS table below in Section H.

Species and/or Critical Habitat	CH Unit (if applicable)	Location (Sea turtles and Gulf Sturgeon <b>only</b> )	Determinations (see definitions below)	For “No Effect”, please select justification.
Loggerhead Sea Turtle (T)		Marine	May Affect, Not Likely to Adversely Affect	Choose an item.
Kemp's Ridley Sea Turtle (E)		Marine	May Affect, Not Likely to Adversely Affect	Choose an item.
Green Sea Turtle (T)		Marine	May Affect, Not Likely to Adversely Affect	Choose an item.
Giant Manta Ray (T)		Choose an item.	May Affect, Not Likely to Adversely Affect	Choose an item.

Choose an item.		Choose an item.	Choose an item.	Choose an item.
Choose an item.		Choose an item.	Choose an item.	Choose an item.
Choose an item.		Choose an item.	Choose an item.	Choose an item.
Choose an item.		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.

Determination Definitions

**Please make the appropriate choice in the drop down menus for both species and designated critical habitat listed in the first column.**

**NE = no effect.** This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat.

**NLAA = may affect, not likely to adversely affect.** This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response requested is concurrence with the not likely to affect determination. This conclusion is appropriate when effects to the species or critical habitat will be wholly beneficial, discountable, or insignificant. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact, while discountable effects are those that are extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur. If the Services concur in writing with the Action Agency's determination of "is not likely to adversely affect" listed species or critical habitat, the section 7 consultation process is completed.

**LAA = may affect, likely to adversely affect.** This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response requested for listed species is formal consultation for action with a likely to adversely affect determination, with a biological opinion as the concluding document. This conclusion is reached if any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable or insignificant. In the event the overall effect of the proposed action is beneficial to the listed species or critical habitat, but may also cause some adverse effect on individuals of the listed species or segments of the critical habitat, then the determination is "likely to adversely affect." Any LAA determination requires formal section 7 consultation and will require additional information.

## I. USFWS Species and Critical Habitat and Effects Determination Requested

*If your project occurs in a location that does not contain any listed USFWS species or designated Critical Habitats, please check the box below. If this box is checked, you may skip Section I and proceed to Section J.*

This project occurs in a location that does not contain any listed USFWS species or designated Critical Habitats.

ESA effects have been accounted for under an existing consultation.

1. List all species, critical habitat, proposed species and proposed critical habitat **generated by IPaC** that may be found in the action area. For species not included in the drop down menu please add manually to the table.

2. Attach a separate map identifying species/critical habitat locations within the action area. For information on species and critical habitat under NMFS jurisdiction, visit: [http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/threatened\\_endangered/Documents/gulf\\_of\\_mexico.pdf](http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/Documents/gulf_of_mexico.pdf).

If Gulf sturgeon in riverine/freshwater waters may be affected, include them in the table here. If Gulf Sturgeon in marine waters may be affected include them in the NMFS table above in Section G. If sea turtles on land may be affected include them in the table here. If sea turtles in water may be affected include them in the NMFS table above in Section G.

Species and/or Critical Habitat	CH Unit (if applicable)	Location (Sea turtles and Gulf Sturgeon <u>only</u> )	Determinations (see definitions below)	For "No Effect", please select justification.
West Indian Manatee		Choose an item.	May Affect, Not Likely to Adversely Affect	Choose an item.
Eastern Black Rail		Choose an item.	No Effect	No suitable habitat in action area
Piping Plover		Choose an item.	No Effect	No suitable habitat in action area
Red Knot		Choose an item.	No Effect	No suitable habitat in action area
Hawksbill Sea Turtle		Terrestrial	No Effect	No suitable habitat in action area
Kemp's Ridley		Terrestrial	No Effect	No suitable habitat in action area
Leatherback Sea Turtle		Terrestrial	No Effect	No suitable habitat in action area
Loggerhead Sea Turtle		Terrestrial	No Effect	No suitable habitat in action area
Monarch Butterfly		Choose an item.	No Effect	No suitable habitat in action area
Alligator Snapping Turtle		Choose an item.	May Affect, Not Likely to Adversely Affect	Choose an item.

**Please make the appropriate choice in the drop down menus for both species and designated critical habitat**

**NE = no effect.** This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat.

**NLAA = may affect, not likely to adversely affect.** This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response requested is concurrence with the not likely to affect determination. This conclusion is appropriate when effects to the species or critical habitat will be wholly beneficial, discountable, or insignificant. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact, while discountable effects are those that are extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur. If the Services concur in writing with the Action Agency's determination of "is not likely to adversely affect" listed species or critical habitat, the section 7 consultation process is completed.

**LAA = may affect, likely to adversely affect.** This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response requested for listed species is formal consultation for action with a likely to adversely affect determination, with a biological opinion as the concluding document. This conclusion is reached if any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable or insignificant. In the event the overall effect of the proposed action is beneficial to the listed species or critical habitat, but may also cause some adverse effect on individuals of the listed species or segments of the critical habitat, then the determination is "likely to adversely affect." Any LAA determination requires formal section 7 consultation and will require additional information.

## J. Effects of the Proposed Project to the Species and Actions to Reduce Impacts

*NOTE: Species selected as "No Effect" with justification in tables above do not need to be addressed in Section I or J.*

I. *Explain the potential beneficial and adverse effects to each species listed above. Describe what, when, and how the species will be impacted and the likely response to the impact. Be sure to include direct, indirect, and cumulative impacts and where possible, quantify effects.*

*If species are present (or potentially present) and will not be adversely affected describe your rationale. If species are unlikely to be present in the general area or action area, explain why. This justification provides documentation for your administrative record, avoids the need for additional correspondence regarding the species, and helps expedite review.*

Terrestrial species (birds, butterflies) are unlikely to be present in the action areas, which is in the water. Sea turtles, giant mantas (*Manta birostris*), manatees, and alligator snapping

turtles may be in the area. If any of these or other ESA-listed or species of concern are encountered, activities will cease until they have moved out of the project area (at least 200 feet). BMPs and Manatee In Water Conditions will be implemented.

II. *Explain the actions to reduce adverse effects to each species listed above. For each species for which impacts were identified, describe any Conservation Measures and/or BMPs that will be implemented to avoid or minimize the impacts. Conservation Measures and/or BMPs are designed to avoid or minimize effects to listed species and critical habitats or further the recovery of the species under review. Conservation Measures and/or BMPs are considered part of the proposed action and their implementation is required. Any changes to, modifications of, or failure to implement these conservation measures may result in a need to reinstate this consultation.*

***Frequently Recommended Conservation Measures and BMPs: This checklist provides standard practices recommended by NMFS and USFWS. Please select any BMPs that will be implemented:***

<input checked="" type="checkbox"/>	<b>USFWS Standard Manatee In Water Conditions</b>
<input type="checkbox"/>	<b>NMFS Protected Species Construction Conditions (2021)<sup>1</sup></b>
<input type="checkbox"/>	<b>NMFS Measures for Reducing the Entrapment Risk to Protected Species<sup>1</sup></b>
<input checked="" type="checkbox"/>	<b>NMFS Vessel Strike Avoidance Measures (2021)<sup>1</sup></b>

**Additional BMPs or Conservation Measures**

Chapter 6 of the PDARP included an important appendix (6.A) of best practices, see information starting on page 6-173. [http://www.gulfspillrestoration.noaa.gov/sites/default/files/wp-content/uploads/Chapter-6\\_Environmental-Consequences\\_508.pdf](http://www.gulfspillrestoration.noaa.gov/sites/default/files/wp-content/uploads/Chapter-6_Environmental-Consequences_508.pdf)

Use the box below to indicate which best management practices or conservation measures you'll be using in your project (that were not listed in Section I above)

**Applicable measures are selected in box above.**

## K. Effects to Critical Habitats and Actions to Reduce Impacts

*NOTE: Species selected as “No Effect” with justification in table do not need to be addressed in Section I or J.*

I. *Explain the potential beneficial and adverse effects to critical habitat listed above. Describe what, when, and how the critical habitat will be impacted and the likely response to the impact. Be sure to include direct, indirect, and cumulative impacts to physical and biological features, and where possible, quantify effects (e.g. acres of habitat, miles of habitat).*

*Describe your rationale if designated or proposed critical habitats are present and will not be adversely affected.*

**The action area is adjacent to Critical Habitat or Proposed Critical Habitat for Red Knot and Piping Plover. It is inshore from Critical Habitat for Loggerhead sea turtles. It is not near to the Critical Habitat or Proposed Critical Habitat for any of the other species found near or adjacent to the action area.**

II. *Explain the actions to reduce adverse effects to critical habitat listed above. For critical habitat for which impacts were identified, describe any conservation measures (e.g. BMPs) that will be implemented to avoid or minimize the impacts. Conservation measures are designed to avoid or minimize effects to listed species and critical habitats or further the recovery of the species under review. Conservation measures are considered part of the proposed action and their implementation is required. Any changes to, modifications of, or failure to implement these conservation measures may result in a need to reinitiate this consultation.*

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<sup>1</sup> <https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-and-guidance>

N/A

## L. Marine Mammals

I. The Marine Mammal Protection Act prohibits the taking (including disruption of behavior, entrapment, injury, or death) of all marine mammals (e.g., whales, dolphins, manatees). However, the MMPA allows limited exceptions to the take prohibition if authorized, such as the incidental (i.e., unintentional but not unexpected) take of marine mammals. The following questions are designed to allow the Agencies to quickly determine if your action has the potential to take marine mammals. If the information provided indicates that incidental take is possible, further discussion with the Agencies is required.

Is your activity occurring in or on marine or estuarine waters?  NO  YES

If yes, is your activity likely to cause large-scale, ecosystem level impacts to the quality (e.g. salinity, temperature) of marine or estuarine waters?  NO  YES

II. If Yes, describe activities further using checkboxes. Does your activity involve any of the following:

NO	YES	ACTIVITY
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a) Use of active acoustic equipment (e.g., echosounder) producing sound below 200 kHz
<input checked="" type="checkbox"/>	<input type="checkbox"/>	b) In-water construction or demolition
<input type="checkbox"/>	<input checked="" type="checkbox"/>	c) Temporary or fixed use of active or passive sampling gear (e.g., nets, lines, traps; turtle relocation trawls)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	d) In-water Explosive detonation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	e) Aquaculture
<input checked="" type="checkbox"/>	<input type="checkbox"/>	f) Restoration of barrier islands, levee construction or similar projects
<input checked="" type="checkbox"/>	<input type="checkbox"/>	g) Fresh-water river diversions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	h) Building or enhancing areas for water-related recreational use or fishing opportunities (e.g. fishing piers, bridges, boat ramps, marinas)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	i) Dredging or in-water construction activities to change hydrologic conditions or connectivity, create breakwaters and living shorelines, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	j) Conducting driving of sheet piles or pilings
<input checked="" type="checkbox"/>	<input type="checkbox"/>	k) Use of floating pipeline during dredging activities

III. If you checked "Yes" to any of the activities immediately above or the activity could impact the quality of marine or estuarine waters, please describe the nature of the activities in more detail or indicate which section of the form already includes these descriptions. See the NOAA Acoustic Guidance for more information: <http://www.nmfs.noaa.gov/pr/acoustics/faq.htm>

Click here to enter text.

IV. *Frequently Recommended BMPs for marine mammals (manatees are covered in Section I above): This checklist provides standard BMPs recommended by NOAA. Please select any BMPs that will be implemented:*

<input type="checkbox"/>	NMFS Southeast U.S. Marine Mammal and Sea Turtle Viewing Guidelines <sup>2</sup>
<input type="checkbox"/>	NMFS Protected Species Construction Conditions (2021) <sup>3</sup>
<input type="checkbox"/>	NMFS Measures for Reducing the Entrapment Risk to Protected Species (2012) <sup>3</sup>
<input checked="" type="checkbox"/>	NMFS Vessel Strike Avoidance Measures and Reporting for Mariners (2021) <sup>3</sup>
<input type="checkbox"/>	NMFS Reproducing and posting outreach signs: Dolphin Friendly Fishing Tips sign, Don't Feed Wild Dolphins sign <sup>4</sup>

If not listed above, please describe any additional BMPs or conservation measures that may be implemented for marine mammals. **NA. Applicable measures are selected in box above.**

## M. Bald Eagles

Are bald eagles present in the action area?  NO  YES

If YES, the following conservation measures should be implemented:

1. If bald eagle breeding or nesting behaviors are observed or a nest is discovered or known, all activities (e.g., walking, camping, clean-up, use of a UTV, ATV, or boat) should avoid the nest by a minimum of 660 feet. If the nest is protected by a vegetated buffer where there is *no* line of sight to the nest, then the minimum avoidance distance is 330 feet. This avoidance distance shall be maintained from the onset of breeding/courtship behaviors until any eggs have hatched and eaglets have fledged (approximately 6 months).
2. If a similar activity (e.g., driving on a roadway) is closer than 660 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
3. If a vegetated buffer is present and there is no line of sight to the nest and a similar activity is closer than 330 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
4. In some instances, activities conducted at a distance greater than 660 feet of a nest may result in disturbance. If an activity appears to cause initial disturbance, the activity shall stop and all individuals and equipment will be moved away until the eagles are no longer displaying disturbance behaviors.

Will you implement the above measures?  NO  YES

If these measures cannot be implemented, then you must contact the Service's Migratory Bird Permit Office.  
Texas – (505) 248-7882 or by email: [permitsR2MB@fws.gov](mailto:permitsR2MB@fws.gov)  
Louisiana, Mississippi, Alabama, Florida – (404) 679-7070 or by email: [permitsR4MB@fws.gov](mailto:permitsR4MB@fws.gov)

<sup>2</sup> <https://www.fisheries.noaa.gov/topic/marine-life-viewing-guidelines>

<sup>3</sup> <https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-and-guidance>

<sup>4</sup> <https://www.fisheries.noaa.gov/southeast/consultations/protected-species-educational-signs>



## N. Migratory Bird Treaty Act

In accordance with the Migratory Bird Treaty Act of 1918 as amended (16 U.S.C. 703-712), will this project cause the take of any birds covered under this act? NO YES

If YES, please explain and indicate if the pertinent permits will be or have been obtained:

Project proponent will review the appropriate BMPs and CMs found at this website and implement the appropriate measures to the extent practicable:

<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>

NO YES

If NO, please explain:

N/A

## O. Request Approval for Use of NMFS PDCs for This Project

Complete this section only if your project qualifies for streamlined ESA consultation under the ESA Framework Programmatic Biological Opinion completed by NMFS on February 10, 2016.

To be eligible for streamlined ESA consultation with NMFS, you must implement all Project Design Criteria (PDCs) applicable to your project. Check "yes" for PDC categories that apply to the proposed project, and request PDC checklist from NMFS.

NO	YES	ACTIVITY
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Oyster Reef Creation and Enhancement
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Marine Debris Removal
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Construction of Living Shorelines
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Marsh Creation and Enhancement
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Construction of Non-Fishing Piers

## P. Submitting the BE Form

**We request that all BE forms and consultation materials be placed on Sharepoint for review.** Upon receipt, we will conduct a preliminary review and provide any comments and feedback, including any requests for modifications or additional information.

If modifications or additional information is necessary, we will work with you until the Biological Evaluation form is considered complete. Once complete, we will use the Biological Evaluation form to initiate appropriate consultations.

Questions may be directed to:

### NMFS ESA § 7 Consultation

Christy Fellas, National Oceanic Atmospheric Administration

Email: [Christina.Fellas@noaa.gov](mailto:Christina.Fellas@noaa.gov)

Phone: 727-551-5714

### USFWS ESA § 7 Consultation

Michael Barron, Department of the Interior

Email: [michael\\_barron@fws.gov](mailto:michael_barron@fws.gov)

Phone: 251-421-7030

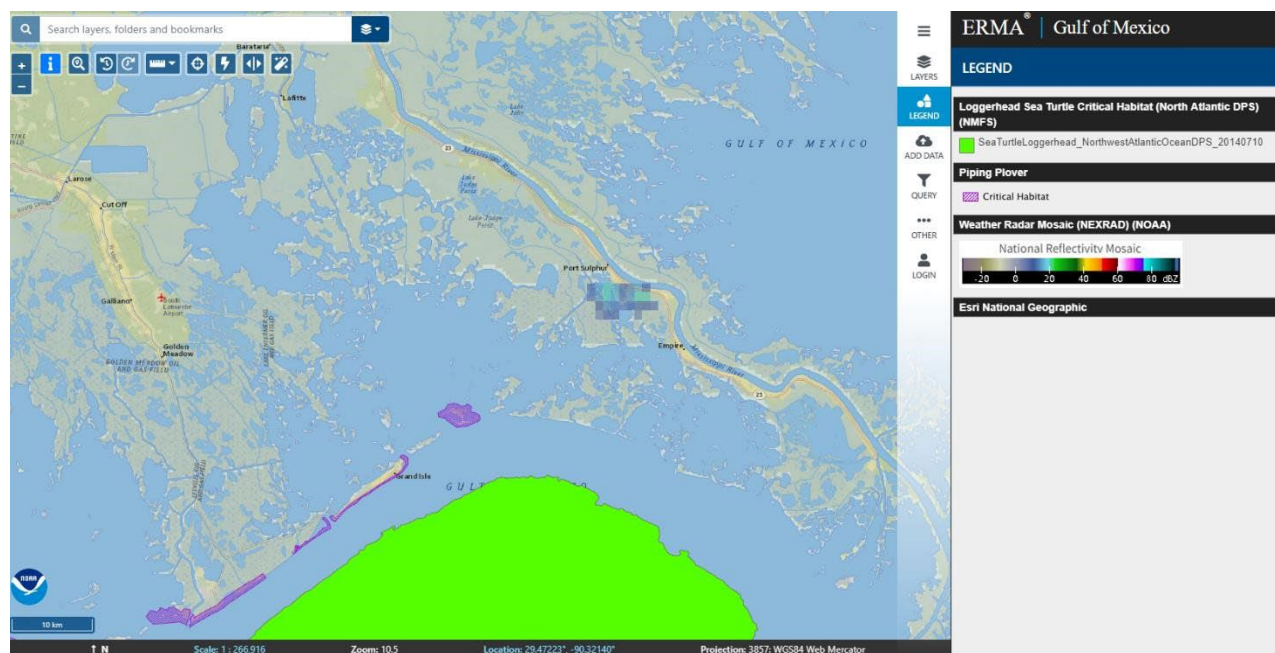


Figure 1. Critical Habitat for the loggerhead sea turtle and the piping plover adjacent to the action area.

Critical Habitat for Rufa Red Knot  
 LA-2 Barataria Barrier Islands and Headlands; Plaquemines, Jefferson  
 and Lafourche Parishes, Louisiana

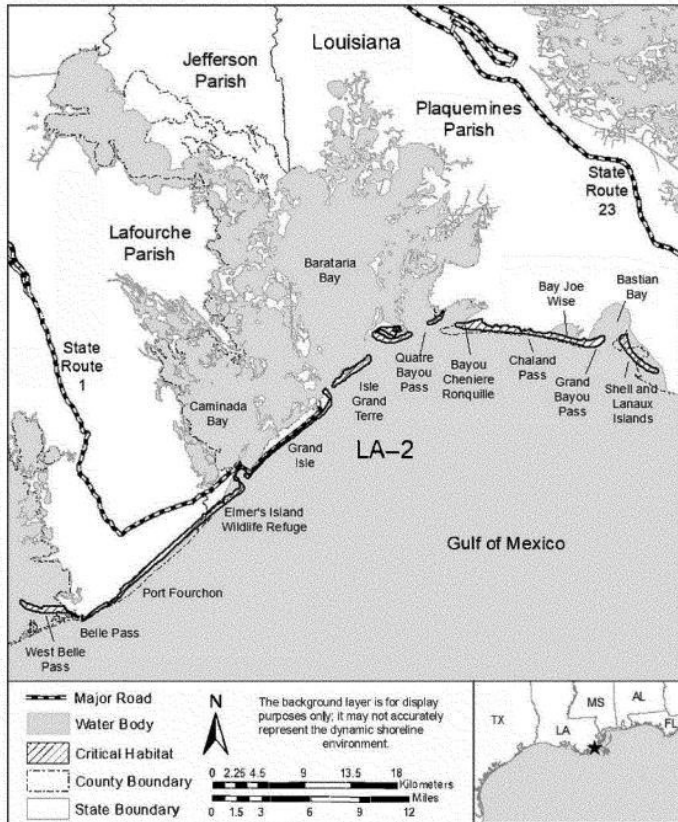


Figure 2. Proposed critical habitat for red knot adjacent to the action area.